Version with Markings to Show Changes Made

In the Claims:

Please amend the claims as follows:

1. A composition for topical application comprising polar hydrophilic salts mixed with non-polar unsaponifiables, said polar hydrophilic salts being the [which are] products of hydrolysis of a saponifiable fraction in the original organic materials, said original organic materials [further initially] comprising at least 6 weight percent unsaponifiable materials prior to the hydrolysis of the organic materials.

2. The composition of claim 1 wherein said original organic materials were pre-treated prior to hydrolysis, said pre-treatment selected from the group of treatments consisting of alkoxylation, polymerization, acetylation, oxidation, reduction, concentration, hydrogenation, partial hydrogenation, interesterification, double bond modification, randomization, and refinement.

3. The composition of claim 2 wherein said pre-treated original organic materials further comprises extracts selected from the group consisting of amaranth seed oil, anise seed oil, avocado seed oil, barley oil, briza oil, buck wheat oil, candelilla wax, carnuba wax, cassia occidentalis oil, coffee bean oil, deoiled lecithin, dog fish oil, esparto wax, oils from fungi and other microorganisms, guayule plant extract, jojoba oil, jurinea oil, lanolin, laurel berry oil, olestra (olean), olive oil concentrate (phytosqualene), olive seed oil, orange roughy oil, ouricury wax, quinoa seed oil, rye germ oil, shark liver oil, shea butter, sperm whale oil, sugar cane wax, sunflower wax, tall oil, tall oil distillate, Vegepure from wheat grains, and wheat germ oil.

4. The composition of claim 1 comprising at least 20% by weight of unsaponifiables.

5. The composition of claim 2 comprising at least 20% by weight of unsaponifiables.

6. A substantive composition comprising the composition of claim 1 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers, physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

7. A substantive composition comprising the composition of claim 2 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers, physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

8. A substantive composition comprising the composition of claim 4 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers, physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

9. A substantive composition comprising the composition of claim 5 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers, physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

10. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 1 to the hair, skin, scales, or feathers of an animal subject.

11. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 2 to the hair, skin, scales, or feathers of an animal subject.

12. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 6 to the hair, skin, scales, or feathers of an animal subject.

13. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 7 to the hair, skin, scales, or feathers of an animal subject.

22. A composition for topical application comprising polar hydrophilic salts mixed with non-polar unsaponifiables, said polar hydrophilic salts being the [which are] products of hydrolysis of a saponifiable fraction in the original organic materials, said original organic materials [further initially] comprising at least 6 weight percent long carbon chain materials prior to the hydrolysis of the organic materials, said long carbon chain materials having at least 18 carbons in length.

23. The composition of claim 22 wherein said original organic materials were pre-treated prior to hydrolysis, said pre-treatment selected from the group of treatments consisting of alkoxylation, polymerization, acetylation, oxidation, reduction, concentration, hydrogenation, partial hydrogenation, interesterification, double bond modification, randomization, and refinement.

24. The composition of claim 23 wherein said pre-treated original organic materials further comprises extracts selected from the group consisting of amaranth seed oil, anise seed oil, avocado seed oil, barley oil, briza oil, buck wheat oil, candelilla wax,

carnuba wax, cassia occidentalis oil, coffee bean oil, deoiled lecithin, dog fish oil, esparto wax, oils from fungi and other microorganisms, guayule plant extract, jojoba oil, jurinea oil, lanolin, laurel berry oil, olestra (olean), olive oil concentrate (phytosqualene), olive seed oil, orange roughy oil, ouricury wax, quinoa seed oil, rye germ oil, shark liver oil, shea butter, sperm whale oil, sugar cane wax, sunflower wax, tall oil, tall oil distillate, Vegepure from wheat grains, and wheat germ oil.

25. The composition of claim 22 comprising at least 20% by weight of unsaponifiables.

26. The composition of claim 23 comprising at least 20% by weight of unsaponifiables.

27. A substantive composition comprising the composition of claim 22 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers, physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

28. A substantive composition comprising the composition of claim 23 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers, physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

29. A substantive composition comprising the composition of claim 25 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers,

physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

30. A substantive composition comprising the composition of claim 26 in combination with at least one ingredient selected from the group consisting of emollients, conditioners, pigments, dyes, pharmaceuticals, ultraviolet radiation absorbers, physical radiation blocks, insect repellants, animal repellants, insecticides, pesticides, herbicides, animal attractants, fragrances, and hormones.

31. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 22 to the hair, skin, scales, or feathers of an animal subject.

32. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 23 to the hair, skin, scales, or feathers of an animal subject.

33. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 27 to the hair, skin, scales, or feathers of an animal subject.

34. A method of providing substantive benefits to an animal subject comprising applying the composition of claim 28 to the hair, skin, scales, or feathers of an animal subject.

REMARKS

Claim Status

Claims 1-13 and 22-34 are pending. Claims 1-13 and 22-34 were rejected. Claims 1-3 and 22-24 have been amended herein.

Claim Rejections - 35 U.S.C. § 112

The examiner maintained the previous rejection since a set of amended claims apparently were included in the last communication. The applicant includes, herein, a set of amended claims in which claims 1 and 22 are amended to remove the term "further initially" and claim 22 is further amended to include the phrase "prior to the hydrolysis of the organic materials" as suggested by the examiner.

Therefore, the applicant respectfully requests that the examiner withdraw the instant rejection.

Claim Rejections - 35 U.S.C. § 102 and/or 103

The examiner rejected claims 1-13 and 2-34 as being anticipated by or, in the alternative, as obvious over Laur et al. 5,679,393. The examiner feels that Laur discloses pre-treated mixes of hydrolysis products of organic materials (in col.'s 2 and 3) that provide shea butter (col. 4, line 66 – col. 5, line 18) at the instant 6% + (48%) unsaponifiables as substantive compositions with anti-free radical activity, for dermatological/cosmetic use. Actives and emollient/conditions are added (in col. 7, line 7 to col. 8, line 4). Shea butter, and the soy, avocado, olive sources are all known as containing high % of their oils and fats as long chain carbon materials, as shown by applicant (in pages 10 and 11). Methods of providing benefits to skin are disclosed at col. 5, lines 40-61, examples 7-10, and claims 22 and 23.

In response to the above rejection, Applicant respectfully points out that for a prima facie case of obviousness to be made, §2142 of the Manual of Patent Examining Procedure (M.P.E.P.) requires three basic criteria to be met:

> First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skilled in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not in the applicants' disclosure. *In re Vaec*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1981), (emphasis added).

Applicant respectfully submits that a prima facie case of obviousness in compliance with the M.P.E.P. has not been made for the invention encompassed by the rejected claims.

Laur does not teach or suggest a composition comprising a mixture of polar hydrophilic salts mixed with non-polar unsaponifiables, each of which are products of the hydrolysis of an original organic material. Thus, in the present invention there is a starting material, which is an organic material, that is subjected to a hydrolysis reaction thereby producing polar hydrophilic salts. These produced polar hydrophilic salts are mixed with the non-polar unsaponifiables originally contained in the original organic material. In the present invention, it is critical that the starting organic material must comprise at least 6 weight percent unsaponifiable materials prior to the hydrolysis of the organic materials. The use of starting organic materials comprising at least 6 weight percent unsaponifiable materials is critical to the present invention in that they provide benefits not available when one uses starting organic materials comprising less than 6 weight percent unsaponifiable materials. This mixture is clearly not disclosed, taught or suggested in Laur.

Laur's primary disclosure is a method for concentrating unsaponifiables by first separating a non-polar fraction, which is rich in unsaponifiables, from the polar fraction of a material using a hot polar solvent. The hot polar solvent is allowed to cool and any resultant solids formed by the cooling are separated from the cooled polar solvent. These solids are also rich in unsaponfiables. These two fractions that are rich in unsaponifiables may then be mixed together. Thus it can be seen that Laur discloses concentrating the

naturally occurring concentration present in a material via crystallization or removal of the saponifiable portion without resort to the step of saponification. At no point does Laur create polar hydrophilic salts by hydrolysis of the original organic materials.

This is clearly different from the present application where the naturally occurring high unsaponifiable fraction is mixed with the saponification products (the polar hydrophilic salts) of the original organic material. The original fraction of unsaponifiables are unaffected by the caustic conditions and are mixed with the polar hydrophilic salts created by the hydrolysis reaction on the saponifiable fraction. There is no teaching or suggestion in Laur that polar hydrophilic salts can or should be mixed with a high fraction (6% or greater) of non-polar unsaponifiables. This limitation is only found in the applicant's disclosure. While Laur has a secondary disclosure of refining the natural product by hydrolysis, a clear reading of the disclosure shows that the hydrolysates produced (what Laur calls "soap" or the polar hydrophilic salts) is discarded from the mix and therefore does not form a part of the ultimate product.

Since Laur does not teach or suggest all of the limitations in the claims in the instant application, it cannot anticipate the claims. Further, a prima facie case of obviousness has not been made since there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the arts, to modify the Laur to produce the instant invention. Since there is no suggestion or motivation to make the modification, there cannot be a reasonable expectation of success. And finally, there is not teaching or suggestion in the prior art of all of the claim limitations.

The examiner has rejected claims 1-13 and 22-34 as being anticipated by Koulbanis et al. (FR 241775). The examiner feels that page 5 of the translation discloses 20-40% unsaponifiables, with jojoba, sunflower oil, as emollients. The compositions are prepared by mixing extracts; thus, they were inherently pre-treated, at least by refinement (separation of the oil from the vegetable) and is recognized as being a treatment product (in pages 4 and 5).

The applicant disagrees with the examiner. What Koulbanis actually discloses is the addition of a previously extracted unsaponifiable component to a blend of two oils, said oils containing an unsaponifiable and a saponifiable portion. What Koulbanis does not disclose, and what is actually claimed, is a composition that is the mixture of non-polar unsaponifiables with polar hydrophilic salts, the polar hydrophilic salts being the products of hydrolysis of original organic materials, said organic material initially comprising at least 6 weight percent unsaponifiable materials prior to the hydrolysis of the saponifiable portion. More specifically, Koulbanis does not disclose the hydrolysis of an organic material initially containing at least 6 percent by weight unsaponifiable materials. **Koulbanis does not disclose mixing the polar hydrophilic salts, which are the result of the hydrolysis, and the non-polar unsaponifiables that are originally in the organic materials**, regardless of the initial concentration of unsaponifiables. In fact, what Koulbanis teaches is the opposite, separation of the unsaponifiables from the salts and addition of the separated unsaponifiables to other organic material. At most, Koulbanis teaches that the separated unsaponifiable portion may contain a fraction of saponifiable materials, but Koulbanis does not teach that the separated unsaponifiable portion would contain any of the polar salts (which it would not since separation utilizes the non-polar nature of the unsaponifiables and would exclude the polar salts). However, in order to advance the present application to issuance, the applicant has amended the claims to further specify the limitations of the present invention. Thus, since Koulbanis does not contain all of the elements of the applicant's invention, as now claims, it does not properly anticipate them. Therefore the applicant respectfully requests that the examiner withdraw the instant rejection.

The examiner has rejected claims 1-9 and 22-30 as being anticipated by Monnier et al. (US Pat. 5,705,722). The examiner feels that Monnier discloses (in col 1, last paragraph) pre-processed organics (tall oil) of over 6% unsaponifiables (col. 2, top; 10-40%). Examples of UFA's of over C_{18} are at Example 4. Pre-treatment includes hydro treating (example 2) and other treatment processes (col 3, lines 25-43). Fragrances (aldehydes) are present (Table A).

The applicant respectfully disagrees with the examiner. As previously stated by the applicant, Monnier actually teaches away from the applicant's invention. The first paragraph of col. 2 clearly states that "The tall oil may be a high quality tall oil ... or it may be a crude tall oil which as been processed to remove undesirable components, such as ash and unsaponifiables." Thus, **Monnier actually teaches the removal of the unsaponifiables, not the inclusion as required by the present claims.** Moreover, Monnier, at no point, discloses that the tall oil is hydrolyzed, thereby creating polar hydrophilic salts. At most, Monnier teaches that the tall oil may be depitched (thermal evaporation), solvent extraction, solid-phase adsorption, or liquid chromatography, all of which are to remove unsaponifiables, not include them into the mixture. While Monnier also discloses hydro-treating, **hydro-treating is not hydrolysis and in no way produces the polar salts as required by the claims** as they now stand. Further, inspection of Monnier clearly shows that there is not disclosure of the hydrolysis of tall oil to produce a polar salt portion and a non-polar unsaponifiable portion that are then mixed together. Thus, since Monnier does not include all of the elements of the applicant's claims, as now amended, it does not properly anticipate the applicant's invention. Therefore, the applicant respectfully requests that the examiner withdraw the instant rejection.

Conclusion

The applicant has fully responded to the issued presented by the applicant and has patentably differentiated his invention over the prior art. Therefore, the applicant respectfully requests that the examiner withdraw all rejections and allow the claims to pass to issuance.

Respectfully submitted,

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